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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KUMABE, BLAKE K

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,054	<b>Applicant(s)</b> ABE, MUTSUMI	
	<b>Examiner</b> Blake Kumabe	<b>Art Unit</b> 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. Claims 1-2, 4-5, and 7-8 are pending.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 4-5 and 8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
3. Claim 4 is objected to because it recites a "computer-readable medium" and the specification lacks antecedent basis for the term. The specification does not define as to what considered as a "computer-readable medium". According to one of an ordinary skill in the art, a "computer-readable medium" includes "storage medium" such as disk, memory, CD, ROM and RAM, and "transmission medium" such as transmission signal, carrier wave signal. For the purpose of examination, examiner will consider a "computer-readable medium" as "storage medium" such as disk, memory, CD, ROM and RAM as on of an ordinary skill in the art. Applicant is advised to amend the claim to a "non-transitory computer-readable medium".
4. Claims 5 and 8 do not cure the deficiency of parent claim 4. Therefore, they are rejected for the same reason as claim 4 as above.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-2, 4-5, and 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The claim language in the following claims is not clearly understood:

- i. As per claim 1, lines 1-3 it is uncertain if a system or a medium is being claimed.
- ii. As per claim 1, lines 4-6, it is uncertain how the task combinations are stored in the task management table (i.e. How is the task management table related to the specified tasks? Does the table determine which tasks need to be completed before switch over?).
- iii. As per claim 1, lines 10-13, it is uncertain what tasks are being specified for completion (i.e. Are there certain factors when choosing which tasks to be completed before switch over?).
- iv. As per claim 1, lines 17-18, it is uncertain when the table is generated (i.e. When exactly is beforehand? Before processing a task?).

- v. As per claim 1, lines 25-27, it is uncertain what is done after this judging step is performed (i.e. Is there utility in only performing the judging step? Is a task executed after the judging step?).
- vi. Claim 4 has the same deficiency as claim 1.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 6. Claims 1-2, 4-5, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wetzel et al. (US 2002/0152256) in view of Alford et al. (US 6,961,934) and Bronte (US 6,061,709).
- 7. As per claim 1, Wetzel teaches the invention substantially as claimed including a task management system for executing a task (process) selected from a plurality of tasks (Each task comprises multiple processes.) (abstract lines 1-6), the system stored on a computer-readable medium and comprising:
  - a processing unit (microprocessor) for executing tasks in a present task combination (abstract lines 1-6);
  - a judging unit for determining whether there is a task combination (task) switchover request (Each task is assigned a priority. When task B requests to execute,

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the priorities of task A and task B are compared. If task B has a higher priority than task A, task A is interrupted.) (¶53; ¶56); and

a switchover unit for, when the judging unit determines there is a task combination switchover request, switching over from the present task combination to a requested task combination after completing an execution of a specified task (current process of task A) in the present task combination (If task B has a higher priority than task A, task A will finish its current process before being interrupted.) (¶56),

wherein:

the specified task is a task of which processing should be completed when switching over the task combination (Task A will finish its current process before being interrupted.) (¶56); and

the judging unit is adapted to determine whether there is a task combination switchover request based on a comparison of pattern numbers (task priorities) associated with the present (task A) and requested task combination (task B) (Assigned task priorities are compared to determine whether task B should interrupt task A.) (¶53; ¶56);

if it is judged that the task combination switchover request exists, the judging unit is further adapted to determine whether or not a not-yet-executed task (current process of task A) exists in the current task combination (Before task A is interrupted it is determined whether or not the current process of task A as executed.) (¶56); and

the processing unit is adapted to execute tasks in the requested task combination after the switching over (After task A is interrupted by task B, task B begins to execute) (§56).

Wetzel does not specifically teach:

a task management table storing a plurality of task combinations, each task combination in the plurality of task combinations comprising at least one task from the plurality of tasks;

wherein:

the specified task is a task of which a processing completion is requested,

the task management table is generated and stored beforehand for every application,

if it is judged that the not-yet executed task exists, the judging unit further adapted to judge whether or not there exists a task of which the processing completion is requested among the not-yet executed tasks.

However, Alford teaches:

a task management table (TAT, TST, and PTT tables) storing a plurality of task combinations (tasks), each task combination in the plurality of task combinations comprising at least one task (thread) from the plurality of tasks (Each task comprises a combination of a plurality of threads. The TAT, TST, and PTT tables are used to look up information (e.g. priorities, type) about tasks and/or each tasks respective threads.) (column 8 lines 17-57);

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wherein:

the task management table is generated and stored beforehand for every application (The tables are generated before the tasks are executed and are used to look up information during execution.) (column 8 lines 17-57).

It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Alford into the system of Wetzel to include a task management table for storing the task combinations. The modification would have been obvious because one of the ordinary skills of the art would utilize the task management table of Alford to provide a single location to lookup and organize information necessary to execute tasks according to a task priorities and/or modes (column 8 lines 17-57).

The combination of Wetzel and Alford does not specifically teach wherein:  
the specified task is a task of which a processing completion is requested; and  
if it is judged that the not-yet executed task exists, the judging unit further adapted to judge whether or not there exists a task of which the processing completion is requested among the not-yet executed tasks.

However, Bronte (US 6,061,709) teaches:

specifying a task (tasks in the high priority queue) in which a processing completion is requested when switching over a task (When a high priority interrupt requests to execute, the interrupting task/thread is placed at the end of the high priority



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queue. All tasks/threads with a higher priority than the interrupting task/thread are completed prior to interruption.) (column 2 lines 60-67; column 3 lines 1-16),

judging whether or not there exists a task of which the processing completion is requested among not-yet executed tasks (When the interrupting task/thread requests to execute, it is determined if there are other tasks/threads higher in the high priority queue before placing the interrupting task/thread into the queue. The tasks/threads already in the high priority queue are not-yet-executed tasks.) (column 2 lines 60-67; column 3 lines 1-16).

It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Bronte into the system of the combination of Wetzel and Alford to request a task in which processing should be completed before switching over. The modification would have been obvious because one of the ordinary skills of the art would utilize the method of Bronte to prioritize completion of time critical tasks before an interrupting task (column 2 lines 60-67; column 3 lines 1-16).

8. As per claim 2, Alford teaches a storage unit for storing an associated relationship between one of the tasks in a task combination and an identifier for identifying this task with the specified task (column 8 lines 17-57).

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9. As per claim 4, the combination of Wetzel, Alford, and Bronte teaches a task management program for executing a task (process) selected from a plurality of tasks (Each task comprises multiple processes.) (Wetzel, abstract lines 1-6) stored in a task management table (Each task comprises a combination of a plurality of threads. The TAT, TST, and PTT tables are used to look up information (e.g. priorities, type) about tasks and/or each tasks respective threads.) (Alford, column 8 lines 17-57), the program stored on a computer-readable medium and comprising the steps of:

judging whether a task combination switchover request has been made based on a comparison of pattern numbers (task priorities) associated with a present task combination (task A), including at least one task from the plurality of tasks, and a requested task combination (task B), including at least one task from the plurality of tasks (Each task is assigned a priority. When task B requests to execute, the priorities of task A and task B are compared. If task B has a higher priority than task A, task A is interrupted.) (Wetzel, ¶53; ¶56);

switching over from the present task combination (task A) to the requested task combination (task B) when a switchover request has been made, wherein the switching over occurs after completing an execution of a specified task (current process of task A) (If task B has a higher priority than task A, task A will finish its current process before being interrupted.) (Wetzel, ¶56); and

executing the tasks in the requested task combination after the switching over (After task A is interrupted by task B, task B begins to execute) (Wetzel, ¶56)

wherein:

the specified task is a task of which a processing completion is requested when switching over the task combination (When a high priority interrupt requests to execute, the interrupting task/thread is placed at the end of the high priority queue. All tasks/threads with a higher priority than the interrupting task/thread are completed prior to interruption.) (Bronte, column 2 lines 60-67; column 3 lines 1-16),

the task management table is generated and stored beforehand for every application (The tables are generated before the tasks are executed and are used to look up information during execution.) (Alford, column 8 lines 17-57),

if it is judged that the task combination switchover request exists, it is determined whether a not-yet-executed task (current process of task A) exists in the current task combination (Before task A is interrupted it is determined whether or not the current process of task A as executed.) (Wetzel, ¶56);

if it is judged that the not-yet executed task exists, it is judged whether there exists a task of which the processing completion is requested among the not-yet executed tasks (When the interrupting task/thread requests to execute, it is determined if there are other tasks/threads higher in the high priority queue before placing the interrupting task/thread into the queue. The tasks/threads already in the high priority queue are not-yet-executed tasks.) (Bronte, column 2 lines 60-67; column 3 lines 1-16).

10. As per claim 5, the combination of Wetzel and Alford teaches wherein said switchover step involves, when judging that there is the switchover request, switching over the task combination after completing the execution of the specified task (Wetzel,

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¶53; ¶56) identified by an identifier in a storage unit for storing an associated relationship between one of the tasks in a task combination in the tasks structuring the task combination before the switchover and an identifier for identifying this task with the specified task (Alford, column 8 lines 17-57).

11. As per claim 7, Wetzel teaches wherein the specified task is a task that must complete execution prior to the switching over from the present task combination to the requested task combination (¶56).

12. As per claim 8, Wetzel teaches wherein the specified task is a task that must complete execution prior to the switching over from the present task combination to the requested task combination (¶56).

### ***Response to Arguments***

Applicant's arguments with respect to claim 1-2, 4-5, and 7-8 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blake Kumabe whose telephone number is 571-270-5593. The examiner can normally be reached on 7:30am - 5:00pm EST Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. K./  
Examiner, Art Unit 2195

/Li B. Zhen/  
Primary Examiner, Art Unit 2194